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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/585,217	Applicant(s) VLACHOS ET AL.
	Examiner Lance W. Sealey	Art Unit 2671

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,11 and 13-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9, 11 and 13-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable by Potter et al. ("Potter," U.S. Pat. No. 6,734,860) in view of Junkins (U.S. Pat. No. 6,674,433).

3. Potter, in disclosing an apparatus for providing videodriving capacity from various types of DACS, also discloses, with respect to claim 1, a method for video graphics processing, comprising receiving primitive vertex parameters corresponding to vertices of a video graphics primitive (col.4, l.64 to col.5, l.3--a 3D graphical image composed of triangles (primitives) is received), wherein the primitive vertex parameters for each vertex include a primitive vertex set of three-dimensional coordinates and a primitive vertex normal vector (col.5, ll.1-9) and tessellating the video graphics primitive to produce a plurality of component primitives (col.4, ll.64-66), wherein each component primitive of the plurality of the component primitives is defined by component vertices having corresponding component vertex parameters, wherein

component vertex parameters for each component vertex parameters for each component vertex include a component vertex set of three-dimensional coordinates and a component vertex normal vector, wherein the component vertex parameters for each component vertex are derived from at least a portion of the primitive vertex parameters (col.5, ll.6-9); and for each component primitive of the plurality of component primitives, processing the component primitive using a three-dimensional processing pipeline (FIG.2A), wherein processing generates pixel data corresponding to the component primitive (col.5, ll.23-25).

4. However, Potter does not disclose tessellating based on a tessellation level, wherein the tessellation level determines a number of component primitives included in the plurality of component primitives. These elements are disclosed by the Junkins method of adaptively subdividing a surface at col.1, l.66 to col.2, l.8 (each decision to further divide a polygon is another tessellation level, each part of a divided polygon is a component primitive, determining a number of component primitives on each division is inherent because each successive division yields four times as many primitives as the number of primitives that existed before the division).

5. Therefore, it would have been obvious to a person skilled in the art at the time this invention was made to have incorporated the Junkins subdivision method in the Potter apparatus by incorporating the Junkins computer-executable instructions **41** (FIG.6) into the Potter graphics accelerator **200** (FIG.2). Such a combination would speed image processing by allowing for control of when the granularity and the quality of the approximation of the surface represented by

the 3D model needs to be increased (Junkins, col.1, ll.13-20).

6. With respect to claim 20, Potter discloses a method for video graphics processing, comprising:

- receiving vertex parameters corresponding to vertices of a video graphics primitive (col.4, l.64 to col.5, l.3--a 3D graphical image composed of triangles (primitives) is received), wherein the vertex parameters for each vertex include three-dimensional coordinates and a normal vector (col.5, ll.1-9) and
- tessellating the video graphics primitive to produce a plurality of component primitives (col.4, ll.64-66).

However, Potter does not explicitly disclose the definition of the plurality of component primitives by a plurality of additional vertices and the vertices of the video graphics primitive, or calculating an additional normal vector for each additional vertex of the plurality of additional vertices, or tessellating based on a tessellation level, wherein the tessellation level determines a number of component primitives included in the plurality of component primitives.

7. Junkins discloses tessellating based on a tessellation level, wherein the tessellation level determines a number of component primitives included in the plurality of component primitives, at col.1, l.66 to col.2, l.8 (each decision to further divide a polygon is another tessellation level, each part of a divided polygon is a component primitive, determining a number of component primitives on each division is inherent because each successive division yields four times as

many primitives as the number of primitives that existed before the division).

8. Admittedly, Junkins, the art combined with Potter to reject this claim, also does not explicitly disclose the definition of the plurality of component primitives by a plurality of additional vertices and the vertices of the video graphics primitive, or calculating an additional normal vector for each additional vertex of the plurality of additional vertices. However, Potter discloses tessellation of the video graphics to produce a plurality of component primitives once, and each vertex in the primitives include three-dimensional coordinates and a normal vector, in col.4, l.64 to col.5, l.9. Junkins discloses repeated tessellations at col.1, l.66 to col.2, l.8. Therefore, it would have been obvious to a person skilled in the art at the time this invention was made to have incorporated the Junkins subdivision method in the Potter apparatus by incorporating the Junkins computer-executable instructions **41** (FIG.6) into the Potter graphics accelerator **200** (FIG.2). Such a combination would speed image processing by allowing for control of when the granularity and the quality of the approximation of the surface represented by the 3D model needs to be increased (Junkins, col.1, ll.13-20).

9. Therefore, in view of the foregoing, claims 1 and 20 are rejected as being unpatentable under 35 U.S.C. 103(a) by Potter and Junkins.

10. Claims 2, 5, 9, 22, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable by Potter in view of Junkins and further in view of Hochmuth et al. ("Hochmuth", U.S. Pat. No. 5,613,050).

11. Neither Potter nor Junkins disclose, with respect to claims 2 and 22, calculating the component vertex parameters for each of the component vertices using linear interpolation. However, this element is disclosed by the Hochmuth method and apparatus for reducing illumination calculations through efficient visibility determination at col.9, ll.26-30.

12. Therefore, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate the Hochmuth interpolation method in the Potter-Junkins method by incorporating the Hochmuth secondary geometry processor **48** (FIG.4) into the Potter-Junkins graphics accelerator (Potter, **200**, FIG.2). This would allow lighting calculations to be performed in order to determine vertex colors (Hochmuth, col.9, ll.12-14).

13. Concerning claims 5 and 24, neither Potter nor Junkins discloses the inclusion of adding lighting effects to the pixel data based on the component vertex normals for the vertices for the component primitives as a part of processing the component primitive. However, these elements are disclosed by Hochmuth at col.6, ll.48-54.

14. Therefore, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate the Hochmuth interpolation method in the Potter-Junkins method by incorporating the Hochmuth primary geometry processor **42** (FIG.3) into the Potter-Junkins graphics accelerator (Potter, **200**, FIG.2). This would allow lighting calculations to be performed in order to determine color values for each primitive (Hochmuth, col.9, ll.12-14).

15. With respect to claims 9 and 26, neither Potter nor Junkins discloses adding lighting

effects as comprising calculating vertex lighting effects at each vertex and each additional vertex corresponding to the plurality of component primitives and calculating lighting effects for each pixel location in the plurality of component primitives by linearly interpolating the vertex lighting effects corresponding to a component primitives in which the pixel location is included. However, these elements are disclosed by Hochmuth. Hochmuth discloses adding lighting effects as comprising calculating vertex lighting effects at each of the component vertices of the component primitive (col.6, l.66 to col.7, l.4) and calculating lighting effects for each pixel location in the component primitive by linearly interpolating the vertex lighting effects for at least a portion of the component vertices of the component primitive (col.7, ll.8-13).

16. Therefore, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate the Hochmuth interpolation method in the Potter-Junkins method by incorporating the Hochmuth primary geometry processor **42** and rasterizer **43** (FIG.3) into the Potter-Junkins graphics accelerator (Potter, **200**, FIG.2). This would allow lighting calculations to be performed in order to determine color values for each primitive (Hochmuth, col.7, ll.8-9).

17. Therefore, in view of the foregoing, claims 2, 5, 9, 22, 24 and 26 are rejected as being unpatentable under 35 U.S.C. 103(a) by Potter in view of Junkins and Hochmuth.

18. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable by Potter in view of Junkins and further in view of Gloudemans et al. ("Gloudemans", U.S. Pat. No.

5,488,684).

19. With respect to both claims, neither Potter nor Junkins disclose calculating the component vertex parameters for each of the component vertices using Nth order interpolation, wherein N is an integer greater than one, in the process of tessellating the video graphics primitive. However, this element is disclosed by the Gloudemans method of blending a graphic at col.33, ll.57-67: bilinear interpolation=second order interpolation.

20. Therefore, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate the Gloudemans interpolation method in the Potter-Junkins method by incorporating the Gloudemans keyer **98** (FIG.2) into the Potter-Junkins-Hochmuth graphics accelerator (Potter, **200**, FIG.2). This would allow for smooth blending between video and images (Gloudemans, col.4, ll.25-32).

21. Therefore, in view of the foregoing, claims 3 and 23 are rejected as being unpatentable under 35 U.S.C. 103(a) by Potter in view of Junkins and Gloudemans.

22. Claims 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable by Potter in view of Junkins and further in view of Owen, "Phong Shading Model for Scan-Line Graphics."

23. With respect to both claims, neither Potter nor Junkins disclose re-normalizing the component vertex normal vector included in the component vertex parameters for each of the component vertices. However, this is disclosed in the Owen reference as the second step of the Phong shading algorithm. Even though, in that second step, Owen re-normalizes for pixels while

claim 4 re-normalizes for vertices, there is a corresponding pixel for each vertex. Therefore, it would have been obvious to a person skilled in the art at the time this invention was made that when a pixel is re-normalized, a vertex would be re-normalized.

24. Accordingly, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate a step from the Phong shading algorithm, as described by Owen, in the Potter-Junkins graphics accelerator (Potter, **200**, FIG.2). This would improve the accuracy of rendering shiny objects, or, as stated in Owen, provide "good specular highlights" (Owen, next to the last sentence).

25. Therefore, in view of the foregoing, claims 4 and 21 are rejected as being unpatentable under 35 U.S.C. 103(a) by Potter in view of Junkins and Owen.

26. Claims 6-8, 11, 13, 17-19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable by Potter in view of Junkins and Hochmuth and further in view of Peercy et al. ("Peercy", U.S. Pat. No. 6,163,319).

27. Neither Potter, Junkins nor Hochmuth disclose adding diffuse, specular and environmental mapping lighting effects. These elements are disclosed by the Peercy shading method. Peercy discloses adding specular (claims 6, 17 and 25) mapping lighting effects (col.23, l.15), diffuse (claims 7, 18) mapping lighting effects (col.23, ll.13-14) and environmental (claims 8, 19) mapping lighting effects (col.23, ll.16-17).

28. Accordingly, it would have been obvious to one of ordinary skill in the art at the time this invention was made to include the Peercy pixel operations module **2040** (FIG.2) in the Potter-Junkins graphics accelerator (Potter, **200**, FIG.2). This would enable less expensive per-pixel lighting calculations in interpolation rather than per-vertex calculations (Peercy, col.8, ll.42-43).

29. Concerning claim 11, Potter discloses a video graphics circuit (FIG.2B) comprising:

- a frame buffer that stores pixel data corresponding to image data for a frame (**214**, FIG.2B);
- a central processor that generates processing commands and vertex parameters corresponding to video graphics primitives (CPU **105**, FIG.1; processing commands and vertex parameters corresponding to video graphics primitives are represented by the "graphics request stream" received by graphics accelerator **200** in col.4, ll.64-65);
- a control processor operably coupled to the central processor, wherein the control processor generates control information based on the processing commands (processing unit **217**, FIG.2. Potter does not explicitly disclose control information, but it would have been obvious to a person skilled in the art at the time this invention was made for Potter to have disclosed control information because it discloses processing commands (input to the generation of the control information) and tessellation and Hochmuth discloses lighting calculations (tessellation and lighting calculations are the end result of the generation of the control information).); and

- a tessellation block (function of processing unit **217**; see col.4, l.65-col.5, l.1) operably coupled to the central processor and the control processor, wherein the tessellation block receives a first portion of the control information from the control processor (Potter does not explicitly disclose control information, but it would have been obvious to a person skilled in the art at the time this invention was made for Potter to have disclosed control information because it discloses processing commands (input to the generation of the control information) and tessellation (the end result of the generation of the control information), and the tessellation part of the control information could arbitrarily be called the "first portion"), wherein, for each video graphics primitive, the tessellation block receives vertex parameters corresponding to each of the vertices of the video graphics primitive (col.4, l.64 to col.5, l.3—a 3D graphical image composed of triangles (primitives) is received) and tessellates the selected video graphics primitive (col.4, ll.64-66) based on tessellation information included in the first portion of the control information, wherein tessellation of the video graphics primitive produces component vertex parameters for a plurality of component primitives that correspond to the video graphics primitive (col.5, ll.6-9).

However, Potter does not disclose a lighting block as disclosed in applicants' claim. This element is disclosed by Hochmuth. Hochmuth discloses:

- a lighting block operably coupled to the tessellation block and the control processor,

wherein the lighting block receives component vertex parameters corresponding to each of the component primitives from the tessellation block and receives a second portion of the control information from the control processor (Potter, col.4, l.64 to col.5, l.3—a 3D graphical image composed of triangles (primitives) is received.), wherein the lighting block adds lighting effects to the component vertex parameters for each of the component primitives to produce modified vertex parameters (Hochmuth, col.6, l.66 to col.7, l.4—vertex parameters are colors), wherein the lighting effects are added based on at least a portion of the component vertex parameters and the second portion of the control information (colors are added to each vertex; see Hochmuth, col.6, l.66 to col.7, l.4. Hochmuth does not explicitly disclose control information, but it would have been obvious to a person skilled in the art at the time this invention was made for control information to have been disclosed because both Potter and Hochmuth disclose processing commands (the Hochmuth commands are the lighting calculations in col.6, l.67, and these lighting calculations are input to the generation of the control information) and the addition of lighting effects (the end result of the generation of the control information—Hochmuth, col.7, ll.3-4), and the lighting part of the control information could arbitrarily be called the "second portion").

30. Therefore, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate the Hochmuth interpolation method in the Potter-Junkins

method by incorporating the Hochmuth primary geometry processor **42** and rasterizer **43** (FIG.3) into the Potter graphics accelerator (Potter, **200**, FIG.2). This would allow lighting calculations to be performed in order to determine color values for each primitive (Hochmuth, col.7, ll.8-9).

31. Potter discloses a three-dimensional video graphics pipeline operably coupled to the control processor and the frame buffer (Potter discloses a three-dimensional video graphics pipeline in FIG.2A; Hochmuth discloses a three-dimensional video graphics pipeline in FIG.3; the Hochmuth lighting block is contained within the primary geometry processor **42**) wherein the three-dimensional video graphics pipeline receives the modified vertex parameters for each of the component primitives and processes each of the component primitives (Hochmuth, col.6, l.66 to col.7, l.4).

32. However, neither Potter nor Hochmuth disclose processing each of the component primitives to generate pixel fragment data that is blended with the pixel data stored in the frame buffer. These elements are disclosed by Peercy at col.14, l.60 to col.15, l.12.

33. Therefore, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate the Peercy blending method in the Potter-Hochmuth method by incorporating the Peercy evaluator **2010**, per-vertex operations module **2020** and per-fragment operations **2060** (FIG.2B) into the Potter-Hochmuth graphics accelerator (Potter, **200**, FIG.2). This would allow a smooth transition from one scene to another by blending incoming pixel colors with stored colors (Peercy, col.15, l.11).

34. However, neither Potter, Hochmuth nor Peercy disclose tessellating based on a tessellation level, wherein the tessellation level determines a number of component primitives included in the plurality of component primitives. These elements are disclosed by Junkins. Junkins discloses tessellating based on a tessellation level, wherein the tessellation level determines a number of component primitives included in the plurality of component primitives, at col.1, l.66 to col.2, l.8 (each decision to further divide a polygon is another tessellation level, each part of a divided polygon is a component primitive, determining a number of component primitives on each division is inherent because each successive division yields four times as many primitives as the number of primitives that existed before the division).

35. Admittedly, Junkins, the art combined with Potter to reject this claim, also does not explicitly disclose the definition of the plurality of component primitives by a plurality of additional vertices and the vertices of the video graphics primitive, or calculating an additional normal vector for each additional vertex of the plurality of additional vertices. However, Potter discloses tessellation of the video graphics to produce a plurality of component primitives <u>once</u>, and each vertex in the primitives include three-dimensional coordinates and a normal vector, in col.4, l.64 to col.5, l.9. Junkins discloses repeated tessellations at col.1, l.66 to col.2, l.8. Therefore, it would have been obvious to a person skilled in the art at the time this invention was made to have incorporated the Junkins subdivision method in the Potter apparatus by incorporating the Junkins computer-executable instructions **41** (FIG.6) into the Potter graphics

accelerator **200** (FIG.2). Such a combination would speed image processing by allowing for control of when the granularity and the quality of the approximation of the surface represented by the 3D model needs to be increased (Junkins, col.1, ll.13-20).

36. Regarding claim 13, Potter discloses the vertex parameters for each video graphics primitive and the component vertex parameters for each component primitive of the plurality of component primitives including, for each vertex, three-dimensional coordinates and a normal vector (col.5, ll.6-9).

37. Neither Potter nor Junkins disclose, with respect to claim 15, calculating the component vertex parameters for each of the component vertices using linear interpolation. However, this element is disclosed by the Hochmuth method and apparatus for reducing illumination calculations through efficient visibility determination at col.9, ll.26-30.

38. Therefore, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate the Hochmuth interpolation method in the Potter-Junkins method by incorporating the Hochmuth secondary geometry processor **48** (FIG.4) into the Potter-Junkins graphics accelerator (Potter, **200**, FIG.2). This would allow lighting calculations to be performed in order to determine vertex colors (Hochmuth, col.9, ll.12-14).

39. Therefore, in view of the foregoing, claims 6-8, 11, 13, 15, 17-19 and 25 are rejected as being unpatentable under 35 U.S.C. 103(a) by Potter in view of Junkins, Hochmuth and Peercy.

40. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable by Potter in view of

Junkins, Hochmuth and Peercy and further in view of Owen.

41. Neither Potter nor Junkins disclose re-normalizing the component vertex normal vector included in the component vertex parameters for each of the component vertices. However, this is disclosed in the Owen reference as the second step of the Phong shading algorithm. Even though, in that second step, Owen re-normalizes for pixels while claim 14 re-normalizes for vertices, there is a corresponding pixel for each vertex. Therefore, it would have been obvious to a person skilled in the art at the time this invention was made that when a pixel is re-normalized, a vertex would be re-normalized.

42. Accordingly, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate a step from the Phong shading algorithm, as described by Owen, in the Potter-Junkins graphics accelerator (Potter, **200**, FIG.2). This would improve the accuracy of rendering shiny objects, or, as stated in Owen, provide "good specular highlights" (Owen, next to the last sentence).

43. Therefore, in view of the foregoing, claim 14 is rejected as being unpatentable under 35 U.S.C. 103(a) by Potter in view of Junkins, Hochmuth, Peercy and Owen.

44. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable by Potter in view of Junkins, Hochmuth and Peercy and further in view of Gloudemans.

45. Neither Potter, Junkins, Hochmuth nor Peercy disclose calculating the component vertex parameters for each of the component vertices using Nth order interpolation, wherein N is an

integer greater than one, in the process of tessellating the video graphics primitive. However, this element is disclosed by the Gloudemans method of blending a graphic at col.33, ll.57-67: bilinear interpolation=second order interpolation.

46. Therefore, it would have been obvious to one of ordinary skill in the art at the time this invention was made to incorporate the Gloudemans interpolation method in the Potter-Junkins-Hochmuth-Peercy method by incorporating the Gloudemans keyer **98** (FIG.2) into the Potter-Junkins-Hochmuth-Peercy graphics accelerator (Potter, **200**, FIG.2). This would allow for smooth blending between video and images (Gloudemans, col.4, ll.25-32).

47. Therefore, in view of the foregoing, claim 16 is rejected as being unpatentable under 35 U.S.C. 103(a) by Potter in view of Junkins, Hochmuth, Peercy and Gloudemans.

Response to Remarks

48. The applicants began by noting that the examiner stated in the last office action that claims 4, 14 and 21 would be allowable if rewritten to include limitations of intervening claims, but claims 4 and 21 were rejected under 35 U.S.C. 103(a) as unpatentable by Potter, Junkins and Owen, and claim 14 was rejected under 35 U.S.C. 103(a) as unpatentable by Potter in view of Junkins, Hochmuth and Peercy and further in view of Owen. The examiner apologizes for the confusion created by these three statements, but now wishes to affirm that claims 4, 14 and 21 are rejected and not allowable.

49. Since all new art has been selected to reject the other claims, the assertions made by the

applicants in their last response have been rendered moot.

Conclusion

Any inquiry concerning this communication or earlier communications from the Office should be directed to the examiner, Lance Sealey, whose telephone number is (703) 305-0026. He can be reached from 7:00 am-3:30 pm Monday-Friday EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

Any response to this action should be mailed to:

MS Non-Fee Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Zimmerman

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